

The object-oriented coder discriminates resource allocation between objects and non-objects for video messaging applications over wireless networks. The object-oriented coder executes a rate control algorithm, an unequal error protection algorithm, and an error concealment algorithm. In the rate control algorithm, an iterative feedback rate control scheme is used in which quantization values of object and non-object data are held constant. In the unequal error protection algorithm, the bit stream is partitioned by object macroblocks and non-object macroblocks. In the error concealment algorithm, five bits of QUANT values of each GOB are used for representing location and motion vectors of the object in the next frame, since the quantization value is constant. The five bits are not used for quantization value. The five bits are used for error concealment to avoid bit rate overhead. The object-oriented coder increases encoding delay, but this increase is acceptable in messaging.